

CLAIMS

1. A fastening device for retention in a hole comprising an elongate shank with a head and a threaded portion in screw threaded engagement with a cylindrical retainer member, in at least part of whose outer surface there is an annular recess, the depth of which increases in the direction towards the head, the recess accommodating an expandable member whose internal surface engages the surface of the recess and which extends out of the recess.
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2. A fastening device as claimed in claim 1 having a spring engaging the shank in the vicinity of the head that is adapted to engage the margin of the hole and urge the shank in the direction out of the hole.
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3. A fastening device as claimed in claim 1 or claim 2 in which the expandable member is a metallic ring.
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4. A fastening device as claimed in claim 3 in which the ring comprises a split ring.
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5. A fastening device as claimed in any preceding claim in which the surface of the recess is frustoconical.
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6. A fastening device as claimed in claim 3 in which the internal surface of the ring is frustoconical and complementary to the surface of the recess.
7. A fastening device as claimed in claim 3 in which the outer edge of the ring at the end directed toward the head is defined by two surfaces which extend at less than 90° to each other.

8. A fastening device as claimed in claim 2 in which the shank comprises longitudinally spaced ribs for engagement with the margin of a hole in the spring.
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9. A fastening device as claimed in claims 2 to 8 in situ in a hole, the spring urging the shank out of the hole.
10. A fastening device as claimed in any preceding claim in situ fastening
10 together two metallic components of an automotive engine.